Interoperable Video Device

White Paper

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ABSTRACT

This White Paper is the result of FCC's Notice #27 (Dec. 3rd 2009) seeking Comments on Video Device Innovation. The paper summarizes the comments of various stake-holders. It lists the various issues which have emerged with the "for" and "against" positions of the stake-holders. It then analyzes the comments for the possible path-forward for achieving the FCC's long term goals. The key realization is that the goals will have to be achieved, not through new mandates but rather by relaxing some of the earlier ones, as desired by the industry. A "Holistic Solution" is then proposed which makes use of existing infrastructure and devices, and yet allows emergence of an "interoperable Video Device", which can be retailed. The solution would allow, in the spirit of internet, universal access of both the internet and MVPD's contents.

EXECUTIVE SUMMARY

Net Magic has a team of researchers who have garnered rich experience in field trials of pioneering technologies in the world – it was thus a fresh challenge to them to find out a solution to the FCC's problem, based on their own experience in making a converged box which could be retailed. NetMagic posted its Comment on FCC's Notice #27 on December 21st 2009.

Since then, NetMagic has been able to study on FCC's websites the Comments of various stake holders too. It has thus been able to gain a deeper insight into the problems for which the solution doesn't lie in technology alone. The solution has to be a win-win for all the stake-holders – otherwise it would be resisted.

From the Comments, NetMagic has perceived an undercurrent, where most of the industry doesn't want FCC to mandate a "network agnostic" solution, and believes that it will hammer itself out through sheer forces of competition. Some MVPDs don't believe that "IP STB" is the way to increase the broadband penetration. The industry attitude seems to have hardened, as some of the earlier steps taken by FCC for mandating Cable Card and 1394 industry has not led to the expected results, and had actually harmed the growth of small and medium cable operators.

NetMagic therefore believes that a "holistic solution" has to be accommodative, such that while fulfilling the basic aims of the FCC and consumers, it leads to further growth of the stake holder by expanding the market itself.

At this moment, it would be futile to mandate development of new devices such as Home Gateways, which would get mired with standards development and enforcement problems. An ideal solution would lie in use of the "existing devices" themselves with utmost a software upgrade. It would be a bonanza, if the consumer would be able to use some of the popular internet video devices themselves, on the MVPD networks too.

Considering the enormous amount of infrastructure developed by the cable industry in the past decade, Netmagic believes that it will be futile to ask them to yet again change their basic building blocks or their existing business practices. Considering that the RF QAM Cable based channel delivery has many inherent limitations, it would be best not to tinker with their existing solutions. Let the existing channel delivery solutions continue through the "leased integrated boxes" as desired by the cable MVPDs.

On the other hand, the IP world is rapidly evolving and is the future as admitted even by the Cable MVPDs. It may be better to supplement the existing QAM infrastructure of the cable MVPDs with interoperable IP infrastructure. This would be possible if the retail Video Device, gives up the quest of trying to get the Channels and TV Guides too (which has been the bottle-neck), and instead concentrate on giving a wonderful Navigation experience with the MVPD's VOD contents. As the VOD contents can include all the episodes of the popular TV programs (as already entrenched on the internet), the user's path-of-least resistance would change. Now his TV viewing habits would be unaffected by his time constraints and the tedium of pre-planning the recording of what he wants to watch later.

The consumer will ultimately be the biggest beneficiary, when they are able to use existing STBs supplied by their MVPD for usual live channel browsing, and use the retail Video Devices for all the VOD contents. The consumer may not even have to buy a new device, as their existing Cable Modem will be sufficient for allowing Ethernet based Video Devices to access HTTP Content Servers at the MVPD head-ends.

Accordingly Netmagic is proposing an optimized "Holistic Solution" to the FCC, which is simple in spirit and can accommodate the interest of all the stake-holders: the consumers, the MVPDs, the CE manufacturers, the Content owners, the DRM providers and the FCC. The Solution allows Video Devices to be used on Internet or MVPD networks, and access commercial "Universal content". Universal content have unique "Universal Content ID" for allowing them to be neatly organized on HTTP Servers for ease of navigation, and searched through Internet search engines.

The Holistic Solution effectively overcomes the problem of standardizing on a DRM or developing an open DRM, by allowing multiple DRMs to co-exist with the MVPDs (in the manner of European Simulcrypt). It would allow an existing Video Device to support a DRM through just a software upgrade. It will also allow emergence of new Video Devices, which can support multiple "downloadable" DRMs. The Holistic Solution effectively decouples distribution of encrypted contents, from the fetching of the associated "License key" required for viewing. This opens up the world of content sharing, as per the trends on the internet, while ensuring payment for each and every usage in a transparent way.

The Holistic Solution will expand the market for contents, allowing different business models for different geographical locations. It will, once for all, take away the problem of Piracy. It will create a new world where the secure contents can float freely in any media and yet accounted for when viewed. This solution, in the manner of internet, should rapidly spread across the world and accommodate the needs of all MVPDs.